Maryland's Unified English Braille Implementation Plan

Maryland State Department of Education, Division of Special Education/Early Intervention Services
The Maryland School for the Blind

On November 2, 2012 the Braille Authority of North America (BANA) voted to adopt Unified English Braille (UEB) to replace English Braille American Edition (EBAE) as the official braille code of the United States. The change represents a refinement of the braille code to better represent changes seen in modern language use. In November of 2013, BANA also voted to set the implementation date for UEB as of January 4, 2016. In addition to adopting UEB, BANA voted to retain the use of Nemeth Code for Mathematics and Science Notation, Music Braille Code and the International Phonetic Alphabet Braille Code.

To prepare for the transition to the updated braille code in Maryland, a UEB Implementation Committee was convened. The committee consisted of representation from the Maryland State Department of Education (MSDE), Division of Special Education/Early Intervention Services Steering Committee of Programs for the Visually Impaired, the MSDE, the Maryland School for the Blind, the Maryland Instructional Resource Center, the National Federation of the Blind of Maryland, and the American Council of the Blind of Maryland.

The UEB Implementation Plan will serve as a guide for decision making as well as a quick access to training and material resources. Please feel free to contact Dr. Joshua Irzyk, Statewide Vision Low Incidence Specialist, at joshua.irzyk@maryland.gov or 410-767-0812.

Sincerely,

Dr. Michael Bina
President
The Maryland School for the Blind

Sincerely,

Marcella E. Franczkowski, M.S.
Assistant State Superintendent
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Maryland State Department of Education

6/2/15

UEB Implementation Plan

Background and Rationale

On November 2, 2012 the Braille Authority of North America (BANA) voted to adopt Unified English Braille (UEB) to replace English Braille American Edition (EBAE) as the official braille code of the United States. The change represents a refinement of the braille code to better represent changes seen in modern language use. In November of 2013, BANA voted to set the implementation date for UEB as January 4, 2016. In addition to adopting UEB, BANA voted to retain the use of Nemeth Code for Mathematics and Science Notation, Music Braille Code and the International Phonetic Alphabet Braille Code.

Below is the full text of BANA's Motion to Adopt UEB:

> In 1991, it was brought to the attention of the Braille Authority of North America (BANA) that there seemed to be a steady erosion in braille usage, by both children and adults. Among the reasons cited was the complexity and disarray of the braille code. The BANA board decided that an overhaul was needed.
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> BANA began the process of developing a unified code for English Braille. In 1993, code development was internationalized and taken on by the International Council on English Braille (ICEB). Throughout the next decade, evaluations were conducted, seminars and conferences took place, and numerous articles were published both in the United States and in the other English-speaking countries working on code development.
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> In 2004, ICEB determined that Unified English Braille (UEB) was sufficiently developed to warrant adoption by its member countries. At that time, BANA decided to observe its implementation in countries adopting UEB and would monitor progress.
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> During the ensuing years, it has become increasingly apparent that although the accurate, automated conversion of print to braille (forward translation) and from braille to print (back translation) is possible, inconsistencies within the current braille code, as well as changing print conventions not effectively addressed in the current literary braille code, serve as significant roadblocks to translation.
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> In addition, the potential for the integration of braille into education and everyday life is now greater than ever because of the proliferation of computers and mobile devices that can generate

braille; and the ability of a braille user to write in braille for instant communication and collaboration with non-braille readers is becoming ever more essential in our digital age.

UEB has been developed with input from many people with the intention of achieving an optimal balance among many factors, including keeping the general-purpose literary code as its basis, enabling braille to convey the same information as print, allowing for the addition of new symbols not currently available in literary braille, providing flexibility to change as print changes, reducing the complexity of rules, and allowing greater accuracy in back translation.

Specialized braille codes such as those used for music, the International Phonetic Alphabet (IPA), and mathematics have continued to be of use and enjoy wide acceptance among their users because of their suitability for their intended specific purposes. The most prevalently-used of these, the Nemeth Code, a braille code for mathematics and science notation, has been widely recognized as a powerful and efficient system for representing these subject areas in braille.

Therefore, it is moved that the Braille Authority of North America (BANA) adopts Unified English Braille to replace the current English Braille American Edition in the United States while maintaining the *Nemeth Code for Mathematics and Science Notation, 1972 Revision*; the *Music Braille Code 1997*; and the *IPA Braille Code, 2008*. The official braille codes for the United States will be *Unified English Braille, Nemeth Code for Mathematics and Science Notation, 1972 Revision* and published updates; *Music Braille Code, 1997*; and *The IPA Braille Code, 2008*;

And, that the *Guidelines and Standards for Tactile Graphics 2010* and *Braille Formats: Principles of Print-to-Braille Transcription 2011* continue to be used in the United States as well as other relevant guidelines developed for specialized and uniquely-formatted materials;

And, that BANA will immediately embark on implementation by developing a preliminary transition timetable and by forming a group of related committees composed of stakeholders from the consumer, educational, and transcription and production communities. These committees will be charged with helping to plan in their respective areas for the development of training materials and for other relevant aspects of the transition. These plans will take into consideration all aspects of creating, teaching, learning, and using braille in a wide variety of settings.

Research and implementation experiences in other English-speaking countries have informed the decision-making and transition process. Research and anecdotal reports from England, Australia, New Zealand and Canada illustrate that the transition for most braille readers had minimal impact on access or reading fluency and comprehension. Changes and modifications to the braille code were viewed positively by most users, with many siting advantages such as similarity to existing code and a more

accurate representation of print (Cryer & Home, 2011). A majority of braille readers who had received no previous instruction or exposure to UEB, 87%, had no difficulty or reported a minimal impact reading speed (White, 2011).

Timeline

2014/2015 School Year – Instructional Year

- Local School Systems, The Maryland School for the Blind (MSB) and the Maryland Instructional Resource Center (MIRC) begin preparing for the transition to UEB with local and national training opportunities
- February – Maryland UEB Transition Committee meets to create timeline and collect resources for student and professional transition
- Maryland's UEB Implementation Plan is released so that Local School Systems, MSB, parents, teachers, and students can make plans for their own transition to UEB
- May 8, 2015 – 25 professionals in Maryland receive intensive training in the Duxbury Braille Translator. The train-the-trainer model will allow information to be disseminated to other professionals
- May 22, 2015 – Dr. Frances Mary D'Andrea presents a training on UEB to professionals in Maryland
- June – Orders for new braille books for the 2015/2016 school year submitted to MIRC will be produced in UEB or Nemeth Code for Mathematics and Science Notation with UEB text, as appropriate. Books and materials that were produced prior to June, 2015 will **not** be reproduced in UEB.
- American Printing House for the Blind (APH) will produce all textbook orders, not previously transcribed, in UEB and/or UEB with Nemeth Code for the 2015/2016 school year
- By the end of 2015, Bookshare will begin producing new braille files in UEB

2015/2016 School Year – Implementation Year

- Fall – Maryland Common Core State Curriculum Frameworks for Braille updated to UEB and will be retitled Maryland's College and Career-Ready Standards for Unified English Braille
- Teachers, paraeducators and braillists will continue to receive professional development in UEB
- Fall – All students who are braille readers or are learning braille will begin making the transition to UEB as appropriate and in accordance with their IEPs.
- Braille Competency Exam for TVIs applying for initial recertification will be offered only in UEB

Resources

- Braille Authority of North America

  The purpose of BANA is to promote and to facilitate the uses, teaching, and production of braille. Pursuant to this purpose, BANA will promulgate rules, make interpretations, and render opinions pertaining to braille codes and guidelines for the provisions of literary and technical materials and related forms and formats of embossed materials now in existence or to be developed in the future for the use of blind persons in North America.

- Overview of Changes from Literary Braille to UEB

  Informational document from BANA that highlights the most significant changes in UEB that will be noted by the general reader of braille

- Provisional Guidance for Transcription Using the Nemeth Code within UEB Contexts

  This method of switching between the Nemeth Code and Unified English Braille has been developed to ensure the continued viability of the use of the Nemeth Code for mathematics.

- The Hitchhiker's Guide to UEB

  "The Hitchhiker's Guide to UEB" was written for children learning UEB by New Zealand Teachers of the Blind and Visually Impaired as a quick reference tool for all those supporting children learning UEB.

- UEB Rulebook

  Full UEB rulebook for braille transcribers from the International Council on English Braille (ICEB)

- Ashcroft's Programmed Instruction: Unified English Braille

  Curriculum manual for teaching UEB

- UEB Chart from Duxbury

  Quick UEB reference sheet from the makers of Duxbury Braille Translation Software

- UEB Chart from Aroga Technologies

  Quick UEB reference sheet from Aroga Technologies

- UEB Cheat Sheet from APH

  Quick UEB reference sheet from APH

Training

The following is a short list of independent Professional Learning resources.

Courses

- The Hadley School for the Blind

  The mission of The Hadley School for the Blind is to promote independent living through lifelong, distance education programs for individuals who are blind or visually impaired, their families and blindness service providers.

- UEB Online

  UEB Online is a training program for sighted people to learn UEB from RIDBC in Sydney. This program is appropriate for teachers, paraprofessionals, and other professionals supporting children and adults with vision impairment. UEB Online consists of 30 lessons that are sub-divided into two modules. For those wishing a Certificate of Completion, RIDBC Renwick Centre offers certificates for each of the two modules, with a processing fee of $40.

- UEBot:

  An online training course currently being developed by Northern Illinois University

Independent Study

- The ABCs of UEB (PDF, HTML, BRF is available for download from BANA)

  Authored by Constance Risjord, this document outlines the major differences between English Braille, American Edition (EBAE) and UEB

- Transcriber's UEB Self-Directed Course

  Self-directed course from CNIB for transcribers, proofreaders and teachers of braille reading to children and adults

- Unified English Braille Australian Training Manual

  A series of lessons and practice exercises by which teachers, transcribers and parents can learn UEB

- Introduction to Unified English Braille

A video series from the Wisconsin Center for the Blind and Visually Impaired

UEB Transition Committee Recommendations for Student Instruction

Based on the experiences of other English-speaking countries that have made the transition to UEB and the input from stakeholders on the Maryland UEB Transition Committee, the following recommendations are intended to inform decision making with students as instructional goals are developed. A student's individual needs must be considered when determining the best instructional course.

Many of the commonly used electronic devices and software, such as Braille note-takers, screen readers and Braille translation programs are available internationally and are already equipped with the ability to use UEB for input and output.

Research and evidence-based practices have led to the following recommendations to be implemented in **Fall, 2015**:

- Students beginning braille instruction – instruction and all available materials in UEB
- Older students in the process of learning braille – begin teaching changes of UEB
- Fluent braille readers – teach changes of UEB
- Teach changes to all students as they encounter new or unfamiliar symbols
- Use Maryland's College and Career-Ready Standards for Unified English Braille to develop IEP goals and objectives
- As often as possible, any student using an electronic device to access braille (note-taker or a braille display connected to a tablet or PC) should read and write using UEB
- Nemeth Code will continue to be used for all mathematics and science instruction

Transcription

The Maryland Instructional Resource Center (MIRC) is a centralized repository for braille and large print textbooks, and is a centralized searching, ordering, procurement and shipping facility for the textbooks. In support of the UEB Implementation Plan, MIRC will institute the following changes:

- Effective June 1, 2015 any new books for the 2015/2016 school year will be in UEB; all other requests will be handled as a Special Format
- The MIRC will develop a list of "Helpful Hints for UEB"
- Following the Duxbury training in May 2015, MIRC will develop a distribution list of transcribers in order to share resources and problem-solve issues as they arise
- MIRC will review and revise textbook order forms to reflect the upcoming changes in UEB

Maryland UEB Transition Committee

Beverly Benke, Teacher of the Visually Impaired – Harford County Public Schools
Dr. Michael Bina, President – The Maryland School for the Blind
Eldre Boggs, Resource Teacher for the Blind and Visually Impaired – Anne Arundel County Public Schools
Carol Bogue, Director of Education – The Maryland School for the Blind
Deborah Brown – The National Federation of the Blind
Joyce Burwell, Director – The Maryland Instructional Resource Center
Susan Flaherty, Teacher of the Visually Impaired – Worcester County Public Schools
Carol Gamble, Braille Teacher – The Maryland School for the Blind
Dr. Joshua Irzyk, Statewide Vision/Low Incidence Specialist – Maryland State Department of Education and The Maryland School for the Blind
Joann Kucic – American Council of the Blind
Nancy Lentz, Teacher of the Visually Impaired – Prince George's County Public Schools
Karen Ehrhardt Lloyd, Program Head for Vision Services – Howard County Public Schools
Jacqueline Otwell, Educational Consultant – The Maryland School for the Blind
Arathi Samuel, Teacher of the Visually Impaired – Baltimore City Public Schools
Sally Shreck, Braille Specialist – Maryland Instructional Resource Center
Linda Starner, Vision Program Team Leader – Baltimore County Public Schools
Cheryl Walcutt, Technical Braillist – Anne Arundel County Public Schools

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Cryer, H. and Home, S. (2011). User research into Unified English Braille (UEB) in the UK. RNIB Centre for Accessible Information, Birmingham: Research report #16.

White, M. (2011). Evaluation of the views of a sample of RNIB magazine subscribers on an Anthology of Essays produced in UEB. RNIB Braille Development Unit, Peterborough.